

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA
Richmond Division

LIMELIGHT NETWORKS, INC.,
Plaintiff,

v.

Civil Action No. 3:15-cv-720-JAG

XO COMMUNICATIONS, LLC
and AKAMAI TECHNOLOGIES, INC.,
Defendants.

OPINION

As the popularity of the internet has soared since the late 1990s, problems with data congestion have arisen over the lanes of the information superhighway. In order to keep up with ever-growing demand for digital content delivered over the internet, inventors constantly develop and patent new technology to move high volumes of data, at high speeds, from content-generating websites to end-users.

The parties in this patent infringement case represent some of those inventors. They provide a host of products, including Content Delivery Networks, to accelerate the delivery of content over the internet. In this lawsuit, the parties allege patent infringement violations based on the other's products and methods.¹ Both parties have moved for summary judgment.

The defendant, Akamai Technologies, Inc. ("Akamai"), seeks summary judgment declaring that: (1) the plaintiff, Limelight Networks, Inc.'s ("Limelight") asserted '324 Patent is invalid due to prior art, (2) Akamai does not infringe on Limelight's asserted '155 Patent, (3)

¹ Limelight originally asserted that Akamai infringed on six of Limelight's patents: Patent No. 7,715,324 (the '324 Patent); Patent No. 8,750,155 (the '155 Patent); Patent No. 8,683,002 (the '002 Patent); Patent No. 8,856,263 (the '263 Patent); Patent No. 9,015,348 (the '348 Patent); and Patent No. 8,615,577 (the '577 Patent). Limelight no longer asserts the '263 Patent. Akamai asserts that Limelight has infringed on five Akamai patents: Patent No. 7,693,959 (the '959 Patent); Patent No. 8,307,088 (the '088 Patent); Patent No. 8,122,102 (the '102 Patent); Patent No. 6,820,133 (the '133 Patent); and Patent No. 7,472,178 (the '178 Patent).

Limelight's asserted '577 Patent is invalidly abstract, and (4) Limelight may not obtain pre-suit damages. For the reasons stated below, the Court grants the motion in part and denies the motion in part. The Court finds that a jury must decide whether Akamai's prior art invalidates Limelight's '324 Patent; disputed facts exist as to whether Akamai infringes on Limelight's '155 Patent; Limelight's '577 Patent describes an abstract idea without an inventive step sufficient to save it from invalidity; and Limelight may obtain pre-suit damages because it did not need to mark its products.

Limelight seeks summary judgment declaring that: (1) Limelight does not infringe on Akamai's asserted '959, '088, and '133 Patents, (2) Akamai's asserted '178 Patent is indefinite, (3) Akamai infringes on Limelight's asserted '324 Patent, and (4) Akamai's late disclosure of invalidity contentions bars Akamai's arguments about the validity of Limelight's '577 Patent. The Court denies Limelight's motion. The Court finds that factual disputes exist as to whether Limelight infringes on Akamai's '959, '088, and '133 Patents. Next, the '178 Patent requires more than one Content Delivery Network storage site and, despite tension in the patent's language, is not indefinite. Third, factual disputes exist as to whether Akamai infringes the '324 Patent. Finally, the Court will not bar Akamai's infringement contentions on the '577 Patent.

I. BACKGROUND

This case arises between two competitors operating independent Content Delivery Networks ("CDNs"). CDNs connect content providers such as websites to internet users through vast complexes of servers. The content providers pay the CDNs to accelerate delivery of their content over the internet to end users. Each company uses different methods to accelerate content and ensure reliable delivery over the CDNs. Limelight brought this case against Akamai

alleging patent infringement on a number of its patents, and Akamai counterclaimed by asserting a number of its own patents against Limelight.

The parties briefed and argued motions for claim construction, and this Court construed the disputed patent claims in its Order dated September 2, 2016 (the “Claim Construction Order”). The parties later limited the number of asserted patent claims to ten each in order to hone the scope of the litigation.² The Court held a hearing on the parties’ motions for summary judgment on December 16, 2016.

II. DISCUSSION³

The Court will first address Akamai’s motion for summary judgment and then move to Limelight’s motion.

A. Akamai’s Motion for Summary Judgment

i. A jury must determine whether Limelight’s asserted ‘324 Patent claims are invalid

The Court cannot find Claims 6 and 11 of Limelight’s ‘324 Patent invalid based on the undisputed facts. Invalidity due to prior art, known as “anticipation,” is a question of fact that

² Limelight alleges that Akamai infringes on Claims 6 and 11 of the ‘324 Patent; Claims 1, 8, and 13 of the ‘155 Patent; Claims 2 and 17 of the ‘002 Patent; Claims 1 and 11 of the ‘577 Patent; and Claim 1 of the ‘348 patent. Akamai alleges that Limelight infringes on Claims 1, 10, 11, and 58 of the ‘959 Patent; Claims 1, 2, and 7 of the ‘088 Patent; Claim 58 of the ‘133 Patent; Claim 2 of the ‘178 Patent, and Claim 2 of the ‘102 Patent.

³ Summary judgment becomes appropriate when the movant establishes that no genuine dispute of any material fact exists and the party is thereby entitled to judgment as a matter of law. Fed. R. Civ. P. 56(a); see *Celotex Corp. v. Catrett*, 477 U.S. 317, 322, 106 S. Ct. 2548 (1986). Once the movant satisfies its showing for summary judgment, the burden shifts to the non-moving party to establish a genuine issue of material fact. See *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 586-88, 106 S. Ct. 1348 (1986). If a court finds that “reasonable jurors could find a preponderance of the evidence that the plaintiff is entitled to a verdict,” the court must deny summary judgment. *Anderson v. Liberty Lobby*, 477 U.S. 242, 252 (1986). When parties file cross-motions for summary judgment, “the court must review each motion separately on its own merits to determine whether either of the parties deserves judgment as a matter of law.” *Rossignol v. Voorhaar*, 316 F.3d 516, 523 (4th Cir. 2003) (internal citation omitted).

must be shown by clear and convincing evidence. *Brown v. 3M*, 265 F.3d 1349, 1351 (Fed. Cir. 2001).⁴ To prove invalidity by anticipation, Akamai must first prove that it practiced its prior art system in public use and second that every element and limitation of the '324 Patent could be found in a single reference in Akamai's prior art. *Brown*, 265 F.3d at 1351.⁵ In comparing an asserted patent claim against prior art, "[w]hen a claim covers several structures or compositions, either generically or as alternatives, the claim is deemed anticipated if any of the structures or compositions within the scope of the claim is known in the prior art." *Brown v. 3M*, 265 F.3d 1349, 1351 (Fed. Cir. 2001). In short, if a patent claims to invent an apparatus that necessarily does two things, but prior art already claims one of those things, the patent is anticipated and invalid.

In *Brown*, the prior art at issue resolved the looming Y2K scare by using an apparatus to convert two-digit dates (97, 98, 99, etc.) in a computer to some other date, such that the computer would not malfunction at midnight on New Year's Eve, 2000. 265 F.3d at 1351. The plaintiff's (ultimately invalidated) patent system claimed to expand on the prior art with the ability to convert two-digit dates, three-digit dates, or four-digit dates, because certain computers used a combination of all three date systems. The Federal Circuit found that the plaintiff's asserted patent claimed a two- three, *or* four-digit system, meaning that, in at least one embodiment, the patent operated on a two-digit basis. *Id.* at 1352. The prior art using a two-digit basis, therefore, anticipated and invalidated the plaintiff's patent. *Id.*

The Court finds that Akamai's prior art and the '324 Patent both operate on a connection-by-connection basis, but this does not resolve the issue of anticipation. A jury must determine

⁴ *Auto. Techs. Int'l, Inc. v. BMW of N. Am., Inc.*, 501 F.3d 1274, 1281 (Fed. Cir. 2007).

⁵ "A person shall be entitled to a patent unless . . . the claimed invention was patented, described in a printed publication, or in public use . . . before the effective filing date of the claimed invention." 35 U.S.C. § 102(a)(1).

whether (1) Akamai practiced its prior art system publicly and (2) Akamai's system contained all limitations of the '324 Patent.

The facts remain disputed as to whether Akamai practiced its prior art in the public use. "Public use includes 'any [public] use of [the claimed] invention by a person other than the inventor who is under no limitation, restriction or obligation of secrecy to the inventor.'" *Touchcom, Inc. v. Bereskin & Parr*, 790 F. Supp. 2d 435, 450 (E.D. Va. 2011) (quoting *Motionless Keyboard Co. v. Microsoft Corp.*, 486 F.3d 1376, 1384 (Fed.Cir.2007)) (alterations in original). The public use need not allow one skilled in the art to recreate the technology, but the factfinder "must simply determine whether the public use related to a device that embodied the invention." *Zenith Elecs. Corp. v. PDI Commc'n Sys., Inc.*, 522 F.3d 1348, 1356 (Fed. Cir. 2008). Here, the extent to which Akamai required confidentiality from its customers regarding the prior art remains disputed. It is also unclear whether Akamai's press releases describing its prior art system actually embody the invention. A reasonable jury could find that Akamai's prior use was not public.

The Court next moves to whether Akamai's prior art contained every limitation of the '324 Patent. The parties have divergent interpretations of the Court's Claim Construction Order. The Court now clarifies its Order because interpretations of a claim construction order remain an issue of law throughout a legal proceeding. *See 02 Micro Int'l Ltd v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). As the Court said at the summary judgment hearing, the '324 Patent describes a system containing a "protocol attribute selector" that can, in some embodiments, operate only on a connection-by-connection basis—even if, in other embodiments,

it can receive multiple requests over one connection.⁶ As in *Brown*, Limelight's patent may invent certain claims not contained in the prior art technology, but it nonetheless claims, in the alternative, an invention contained in prior art—here, the ability to operate over a connection-by-connection basis. Following this clarification, a jury must still decide whether Akamai's prior art system contained all limitations as the '324 Patent, including whether the prior art contained a protocol attribute selector as the Court has construed the term. The Court denies the motion to dismiss.

ii. Disputed facts exist as to whether Akamai infringes on Limelight's asserted '155 Patent

The Court cannot say that Akamai does not infringe on Limelight's asserted '155 Patent as a matter of law because reasonable jurors could find that Akamai's accused system meets each limitation of the '155 Patent.

A court should grant summary judgment on patent non-infringement if the undisputed evidence shows that the accused product does not incorporate every limitation of a claim in an asserted patent, either literally or under the doctrine of equivalents. *Fellowes, Inc. v. Michilin Prosperity Co.*, 491 F. Supp. 2d 571, 584 (E.D. Va. 2007) (citing *MicroStrategy, Inc. v. Business Objects, S.A.*, 429 F.3d 1344, 1352 (Fed.Cir.2005)). If even one claim limitation is missing or not met, there is no infringement. *Id.* "A finding of infringement under the doctrine of equivalents requires a showing that the difference between the claimed invention and the accused product or method was insubstantial or that the accused product or method performs the substantially same function in substantially the same way with substantially the same result as

⁶ As stated in the Claim Construction Order, the patent can, although is not required to, receive multiple requests over the same connection. Under this interpretation, the '324 Patent operates, at times, on a connection-by-connection basis only. The patent can therefore act either only on a connection-by-connection basis, only on a request-by-request basis, or both.

each claim limitation of the patented product or method.” *Id.* (quoting *AquaTex Indus., Inc. v. Techniche Solutions*, 479 F.3d 1320, 1326 (Fed.Cir.2007)).

The parties dispute the meaning of the term “link capacity,” as used in the patents and the Court’s Claim Construction Order. The Patent Examiner struck from the ‘155 Patent the phrase “relate to . . . link capacity, and/or a size or type of the content.” Under the Court’s construction, Limelight disclaimed parameters relating to link capacity—even those parameters that relate to link capacity *and* some other factor such as memory. Limelight alleges that Akamai infringes on its patent by utilizing factors such as packet loss and round trip time to adjust settings within its CDN. The jury in this case must first decide whether packet loss and round trip time relate to link capacity, a finding of which would prevent Limelight from pursuing these claims. Next, if the parameters do not relate to link capacity, the jury must decide whether the parameters relate to processor or memory utilization as Limelight alleges. The Court denies summary judgment since a jury must resolve these issues.

iii. Limelight’s asserted ‘577 Patent claims are invalid under 35 U.S.C. § 101

Limelight’s asserted ‘577 Patent claims (Claims 1 and 11) are abstract and therefore invalid under 35 U.S.C. § 101.

To determine whether a patent is abstract, the Court follows a two-step test. First, a party may not patent an abstract concept. *McRO, Inc. v. Bandai Namco Games Am. Inc.*, 837 F.3d 1299, 1312-14 (Fed. Cir. 2016) (“The abstract idea exception prevents patenting a result where ‘it matters not by what process or machinery the result is accomplished.’”) (citing *O’Reilly v. Morse*, 56 U.S. (15 How.) 62, 113, 14 L.Ed. 601 (1854)). A patent cannot claim to invent a method directed to a mental process that the human mind could carry out, such as sorting according to a set of rules. *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1146 (Fed.

Cir. 2016). A system which invents *specific rules* to automate a process which had previously been accomplished by *subjective understandings* is not abstract, however. *McRO*. at 1307.

If a court finds a patent directed toward an abstract idea, the patent may still be valid so long as it adds an inventive concept sufficient to ensure the patent amounts to “significantly more” than an abstract idea. *Alice Corp Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2357 (2014). At this second step, the court considers the elements of each claim, “both individually and as an ordered combination,” to determine whether the additional elements amount to more than just the abstract idea. *Alice*, 134 S.Ct at 2355 (citation omitted). If they do, the patent is valid. A patent cannot, however, use a generic computer function to accomplish an abstract idea, such as using a computer to sort through mail based on a certain pre-determined set of instructions that could be carried out (at a slower pace) by a human. *Intellectual Ventures I LLC v. Symantec Corp.*, 838 F.3d 1307, 1314 (Fed. Cir. 2016).

The ‘577 Patent describes its goal of speeding up a CDN network through the use of policies and a system for selecting those policies. Under *Alice* step one, the ‘577 Patent fails to provide a specific process to accomplish that result. Importantly, the claims describe a computer system’s use of policies to create speed within the CDN, but they never describe these policies in any detail. The claims also describe a system designed to best select the appropriate applicable policy, but never describes *how* the patent achieves this end. The patent is therefore abstract under step one and merely claims to invent a system of using policies to generate an outcome rather than inventing a series of specific policies or a system for selecting those policies.

Turning to step two, the patent fails to establish an inventive concept. The ‘577 Patent’s first claim merely describes a CDN containing stores of policies and components designed to implement policies. Upon review of the claims both individually and in combination, this

system does not claim to invent a CDN, an innovative computer system, or a specific process of carrying out the policies. The Court finds by clear and convincing evidence that Limelight's '577 Patent merely uses generic components of a CDN to implement an abstract idea. Accordingly, the Court grants Akamai's motion—Limelight's patent is invalid and Limelight may not assert the patent claims in this case.

vi. Limelight may obtain pre-suit damages under 35 U.S.C. § 287.

Akamai contends that Limelight did not mark its products and therefore cannot seek damages for any time before filing suit. The Court denies Akamai's claim because Limelight did not need to mark its products and, therefore, may seek pre-suit damages.

To seek damages for patent infringement occurring before the initiation of a lawsuit, a patentee must have placed the allegedly infringing party on notice about the patent's existence. *Imagexpo, L.L.C. v. Microsoft Corp.*, 299 F. Supp. 2d 550, 553 (E.D. Va. 2003) (citing 35 U.S.C. § 287). A patentee can place others on notice either constructively, by marking its patented articles with a patent number, or actually, by specifically communicating the existence of the patent. *Id.*⁷ Whether a website counts as an "article" that a patentee must mark has been a topic of debate among the district courts, but courts considering the issue have determined that a patentee must mark a website either where the website is somehow intrinsic to the patented device or where the customer downloads patented software from the website. *See IMX, Inc. v. Lendingtree, LLC*, No. CIV. 03-1067-SLR, 2005 WL 3465555, at *4 (D. Del. Dec. 14, 2005)

⁷ See also *Am. Med. Sys., Inc. v. Med. Eng'g Corp.*, 6 F.3d 1523, 1538 (Fed. Cir. 1993) ("[T]o the extent that there is a tangible item to mark by which notice of the asserted method claims can be given, a party is obliged to do so if it intends to avail itself of the constructive notice provisions of section 287(a).").

(requiring marking where customers accessed and used the patented product through the patentee's website).⁸

Here, Limelight's customers could access their accounts through Limelight's website to change account settings, but Limelight's website is in no way intrinsic to its CDN system. It is not a portal to access the CDN system nor do Limelight's customers download software from the site. Akamai has also failed to show that a patentee must mark user manuals or welcome letters for a patented system which otherwise lacks a tangible item to mark. Limelight's products, therefore, do not amount to "articles" which require marking. The Court denies Akamai's motion.

B. Limelight's Motion for Summary Judgment

i. Whether Limelight infringes on Akamai's '959, '088, or '133 Patent remains a jury issue

To determine whether Limelight infringes on Akamai's patents, the Court applies the same standard as discussed above with Limelight's motion regarding infringement on the '155 Patent. "[A]fter the court has defined [a patent's] claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact." *PPG Indus. v. Guardian Indus. Corp.*, 156 F.3d 1351, 1355 (Fed. Cir. 1998). For each patent, the Court finds that a jury must decide whether Limelight infringes.

A jury must determine whether Limelight's Loris system infringes on Akamai's '959 Patent. In the Claim Construction Order, the Court construed the '959 Patent as containing a top-level and a low-level domain name service that cannot operate on one level but that can operate both levels on one device. Limelight has failed to show undisputed facts that its Loris

⁸ See also *Northbrook Digital Corp. v. Browster, Inc.*, No. CIV. 06-4206, 2008 WL 4104695, at *3 (D. Minn. Aug. 26, 2008).

system does not infringe on the Akamai patent, and a jury must determine, among other issues, whether the Loris system constitutes a domain name service and whether it operates on two levels. The Court denies the motion.

Whether Limelight infringes on Akamai's '088 patent must also go to a jury. The '088 Patent invents a "computer system" that facilitates integration between a service provider, such as Akamai, and a content provider's website. The system (1) receives, from the service provider, a domain name associated with a web page and a domain name identifying an origin server associated with the content provider; and (2) in response, provides the service provider with a CDN-specific domain that points to the DNS associated with the domain name. Limelight argues that its own systems do not contain a "computer system," but a jury must decide whether Limelight's Lux and RT computers constitute computer systems that infringe on Akamai's patent. The Court therefore denies the motion on the '088 Patent.

A jury must also determine whether Limelight's technology infringes on Akamai's '133 Patent. First, the Court interpreted the '133 Patent's "high performance protocol" as one not "supported by" the source or the destination. To clarify the Court's construction, a source or destination supports a protocol only if it can send *and* receive the protocol. In Limelight's FastTCP protocol, end users can receive transmissions but they cannot send transmissions using the protocol. End users cannot, therefore, support FastTCP, so the technology may be a high-performance protocol. A jury must decide whether the technology infringes. For Limelight's private network with intelligent routing, Limelight fails to show that it does not infringe on the '133 Patent as a matter of law, and a jury must decide, among other factual disputes, whether the private network constitutes a "communication protocol." The Court, therefore, denies Limelight's motion.

ii. A jury could find that Akamai does not infringe on Limelight's '324 Patent

As with Limelight's motions on non-infringement, the Court finds that disputed facts exist as to whether Akamai's allegedly infringing system meets each limitation of Limelight's '324 Patent. Based on Limelight's presentation of the facts in its briefing and at the hearing, the Court simply cannot say that Akamai's accused products satisfy each limitation of the '324 Patent. The Court denies the motion.

iii. Akamai's asserted '178 Patent is not indefinite

The Court denies Limelight's summary judgment motion seeking to declare Akamai's '178 Patent indefinitely vague. "[A] patent is invalid for indefiniteness if its claims, read in light of the specification delineating the patent, and the prosecution history, fail to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 134 S. Ct. 2120, 2124 (2014). As the Court stated during the summary judgment hearing, despite the patent's use of the phrase "one or more" CDN storage sites, the patent's claims and specification reveal that the patent requires more than one CDN storage site. The patent is not indefinite and Akamai may assert its patent at trial.

iv. Akamai's late disclosure of invalidity contentions does not bar Akamai's arguments against the '577 patent.

Limelight's motion for summary judgment on the '577 Patent ultimately boils down to a discovery issue over which this Court may exercise its discretion. As the Court stated from the bench, the Court denies Limelight's request to exclude Akamai's late invalidity contentions and therefore denies Limelight's motion for summary judgment on the '577 Patent.

III. CONCLUSION

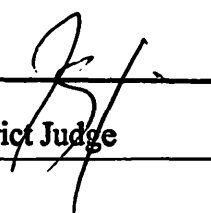
For the reasons stated above, the Court grants in part and denies in part Akamai's motion for summary judgment and denies Limelight's motion for summary judgment. The Court grants

Akamai's motion in part and finds that Limelight's '577 Patent is invalidly abstract. The Court denies Akamai's motion in part and finds that factual disputes exist as to the validity of Limelight's '324 Patent, a jury must determine whether Akamai infringes on Limelight's '155 Patent, and that Limelight may obtain pre-suit damages. The Court denies Limelight's motion and finds that a jury must determine whether Limelight infringes on Akamai's '959, '088, and '133 Patents, Akamai's '178 Patent is not indefinite, disputed facts exist as to whether Akamai infringes on Limelight's '324 Patent, and Akamai may use its late infringement contentions to attack Limelight's '577 Patent.

The Court will enter an appropriate Order.

Let the Clerk send a copy of this Opinion to all counsel of record.

Date: March 13, 2017
Richmond, VA

<p style="text-align: center;">/s/ </p> <p style="text-align: center;">John A. Gibney, Jr. United States District Judge</p>
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